

### **Amendments to the Claims:**

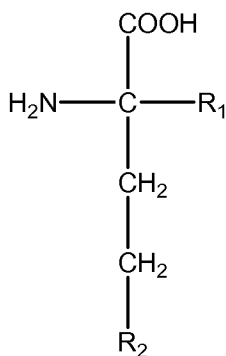
This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

Claims 1-4. (CANCELLED)

5. (CURRENTLY AMENDED) A method for treating, palliating or inhibiting mycobacterial infections in a mammal by inhibiting mycobacterial glutamine synthetase without causing substantial toxic side effects in said mammal, said method comprising the steps of:

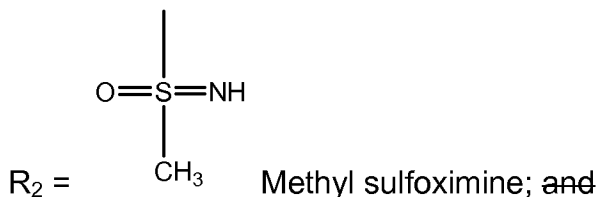
administering to a mammal having a mycobacterial infection an anti-microbial effective amount of an anti-mycobacterial composition comprising a mycobacterial glutamine synthetase (MbGS) inhibitor of Formula 1;



Formula 1

wherein

R<sub>1</sub> = branched and straight chain alkyl groups of 1 to 8 carbons; and



wherein said inhibitor can comprise active isomers or active and inactive isomers and wherein said effective amount is based at least in part on the ratio of active to inactive isomers in said composition; and

inhibiting mycobacterial glutamine synthetase to a greater degree than mammalian glutamine synthetase and wherein gamma-glutamylcysteine synthetase or glutathione synthesis are not substantially inhibited;

wherein said mycobacterial infection is treated, palliated or inhibited.

6. (CANCELED)

7. (CURRENTLY AMENDED) The method for treating mycobacterial infections in a mammal according to claim 5 wherein  $R_1$  comprises branched and straight-chained alkyl groups from 2 to 4 carbons and wherein gamma-glutamylcysteine synthetase or glutathione synthesis are not substantially inhibited.

8-9. (CANCELED)

10. (CURRENTLY AMENDED) A method for treating, palliating or inhibiting mycobacterial infections in a mammal by inhibiting mycobacterial glutamine synthetase without causing substantial toxic side effects in said mammal, said method comprising the steps of:

administering to a mammal having a mycobacterial infection an anti-microbial effective amount of an anti-mycobacterial composition comprising active and inactive ingredients wherein said active ingredient consists essentially of alpha-methyl-[[D]]L-methionine-S[[R]]-sulfoximine or alpha-ethyl--[[D]]L-methionine- S[[R]]-sulfoximine; and

inhibiting the growth of a Mycobacteria species without causing substantial toxic side effects in said mammal.

11. (PREVIOUSLY PRESENTED) The method according to claims 5 or 10 further comprising co-administering an anti-microbial effective amount of isoniazid (INH).

12. (PREVIOUSLY PRESENTED) The method for treating, palliating or inhibiting mycobacterial infections in a mammal according to claims 5 or 10 wherein said mammal is selected from the group consisting of humans, monkeys, cows, pigs, horses, rabbits, rodents, cats and dogs.

13. (PREVIOUSLY PRESENTED) The method for treating, palliating or inhibiting mycobacterial infections in a mammal according to claims 5 or 10 wherein said mycobacterial infection is caused by a member of the genus Mycobacterium selected from the group consisting of *M. tuberculosis*, *M. bovis*, *M. avium*.

14. (CANCELED)

15. (CURRENTLY AMENDED) A method for treating, palliating or inhibiting mycobacterial infections in a mammal by inhibiting mycobacterial glutamine synthetase without causing substantial toxic side effects in said mammal, said method comprising the steps of:

administering to a mammal having a mycobacterial infection an anti-microbial effective amount of an anti-mycobacterial composition comprising active and inactive ingredients wherein said active ingredient consists essentially of alpha-methyl-L-methionine-S-sulfoximine ( $\alpha$ -Me-MSO) or alpha-ethyl-L-methionine-S-sulfoximine ( $\alpha$ -Et-MSO); and

inhibiting the growth of a Mycobacteria species without causing substantial toxic side effects in said mammal.

16-22. (CANCELED)